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DEPARTMENT OF COMMERCE
BUREAU OF STANDARDS

Letter
Circular
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DIRECTOR'S OFFICE
BUREAU OF STANDARDS

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PUBLICATIONS BY THE FIRE RESISTANCE SECTION

The official publications listed can be obtained from the Superintendent of Documents, Washington, D.C., for the given price. A limited number can be obtained free from the Bureau of Standards by cooperating organizations. They can be consulted at 402 public libraries, a list of which is given in Circular 24 which gives a complete list of publications by the Bureau of Standards. Copies of letter circulars and reprints of technical articles can be obtained free as far as copies are available, by addressing the Bureau of Standards, Washington, D. C., attention Division III-6. No copies are available of publications marked *.

Official Publications

Circular 75 - Safety for the Household*- Price \$.75. Describes household hazards from fire, gas, electricity, lightning and precautions to be taken.

Technologic Paper 130 - Heat Insulating Properties of Building Materials - by W. A. Hull - Price \$.10. Gives results of fire tests of cylindrical specimens of burned clay, concrete and gypsum. The insulation was measured by the temperature progress toward the center of the specimens.

Technologic Paper 184 - Fire Tests of Building Columns - by S. H. Ingberg, H. K. Griffin, W. C. Robinson, R. E. Wilson - Price \$.75. Gives results of tests of 106 protected and unprotected building columns when exposed under load to a standard test fire, followed in some tests by hose stream application.

Technologic Paper 272 - Fire Resistance of Concrete Columns - by W. A. Hull and S. H. Ingberg - Price \$.25. The paper reports results of 62 fire tests and 16 compression tests of concrete columns.

Letter Circulars

- Letter Circular 29 - Ideal Wall Construction - gives preliminary results of tests on strength and fire resistance of the "Ideal" Rolok wall construction.
- Letter Circular 70 - The Safety of Portable Motion Projectors - describes hazards involved in the growing of motion picture film and experiments with portable projectors.
- Letter Circular 71 - Tentative Classification of Building Construction with reference to Fire Resistance - provides a scale of fire resistance from that obtainable with the highest type of protected members to the least resistive type using combustible supports and finishes.
- Letter Circular 113 - Fire Resistance of Hollow Tile - gives general results of fire tests and table of fire resistance periods for different wall thicknesses.
- Letter Circular 137 - Safety of Theatre Proscenium Curtains - gives results of fire tests of steel and asbestos cloth curtains, recommended specifications for both and suggestions for improving present installations.

Specifications

- U. S. Government Specification 60 for Insulated Safes and Cabinets - classifies safes from standpoint of construction into two types and in point of fire resistance into three classes; gives prescribed tests and suggestions for proper location and use.
- Tentative Specifications for Fire Tests of Building Construction and Materials - Proposed A. E. S. C. standard sponsored by the Fire Protection Group, the American Society for Testing Materials and the Bureau of Standards.
- Specifications and Tests for Clay Hollow Load Bearing Wall Tile - A.S.T.M. standard.

Articles in Technical Journals

- Fire Tests of Concrete Columns - by W. A. Hull - Proceedings of American Concrete Institute, 1918*, 1919*, 1920 - gives progress reports of fire tests reported in full in Technologic Paper 272.
- Lessons from Fire Tests* - by S. H. Ingberg - Clayworker, June 1922 - reviews results of fire tests and their application to fire resistive construction.
- Fire Tests of Brick Walls* - by S. H. Ingberg - American Architect, September 26, October 10, 1923 - gives preliminary report on results with restrained and unrestrained walls tested to six hours. Later tests under load and to the ultimate of the heavier walls modify conclusions given.
- Fire Tests of Brick Walls* - by S. H. Ingberg - Brick and Clay Record, October 10, 1923; Clayworker, November 1923; Fire Protection, November 1923; Quarterly, National Fire Protection Association, January 1924; Safety Engineering, December 1923 - gives in briefer form the same material as the American Architect article.
- Fire Tests of Theatre Proscenium Curtains* - by N. D. Mitchell - Quarterly, National Fire Protection Association, April 1925; Safety Engineering, February 1925 - gives results of fire tests of two steel curtains and four flexible or semi-rigid asbestos cloth curtains.
- Investigation of Causes of U. S. Treasury Roof Fire - by N. D. Mitchell - Quarterly, National Fire Protection Association, January 1923 - describes experiments to determine heat penetration from tar heating kettle that caused ignition of temporary planking.
- The Fire Resistance of Concrete Protected Building Columns* - by S. H. Ingberg - paper before National Crushed Stone Association; Rock Products, March 1923 - gives in brief results of fire tests of reinforced concrete and concrete protected steel and cast iron columns.
- Methods for Making Absorption Determinations for Hollow Building Tile* - by H. D. Foster - Journal American Ceramic Society, November 1922 - gives absorptions obtained by immersion of clay tile up to 72 hours and boiling at atmospheric pressure and reduced pressure for periods up to 5 hours.

Capping for Compression Specimens - by H. D. Foster - Journal American Ceramic Society, May 1923 - gives results of compression tests of hollow tile capped with various materials and also as tested with ground ends.

Effect of Grog Addition on Fire Resistance of Hollow Tile - by H. D. Foster - Journal American Ceramic Society, June 1922 - gives results of fire tests of tile having various percentages of ground burned clay added in manufacture.

Strength, Absorption and Freezing Resistance of Hollow Building Tile - by H. D. Foster - Journal American Ceramic Society, March 1924 - gives results for clay tile from typical clays and producing districts.

Fire Resistive Properties of Gypsum* - by S. H. Ingberg - Proceedings American Society for Testing Materials, Vol. 23, 1923, Part 1, page 254 - describes molecular changes in gypsum due to heat and their significance from standpoint of heat insulation and shrinkage.

Factors Affecting Brick Masonry Strength - by S. H. Ingberg - Proceedings American Society for Testing Materials, Vol. 24, 1924, Part 2, page 909 - gives results of auxiliary strength tests of solid and hollow walls made in connection with fire tests of larger walls.

Portable Equipment for Transverse Tests of Brick* - by H. D. Foster - Clayworker, February 1925 - describes apparatus for making cross bending tests of brick at the plant or on the job.

The Fire Resistance of Gypsum Partitions - by S. H. Ingberg - Proceedings American Society for Testing Materials - Vol. 25, 1925, Part 2, page 299 - gives results of tests conducted in this country and abroad on plastered and unplastered gypsum block partitions.

Thwarting the Fire Hazard - by S. H. Ingberg - Philadelphia Public Ledger Magazine, November 2, 1925 - an account of the fire resistance activities of the Bureau of Standards and their relation to improvement in structural conditions.

Progress Report of Research Work on the Fire Resistance of Hollow Load Bearing Wall Tile - by H. D. Foster - Proceedings 8th Annual Meeting of the Hollow Building Tile Association, 1926, page 90 - gives results and some general conclusions from fire tests made during 1925.

Fire Prevention and Fire Protection for Storage Warehouses* - by N. D. Mitchell - 35th Annual Report of the American Warehousemen's Association, 1925, page 445 - describes structural factors involved in protection of warehouses.

The Nation's Fire Loss and its Causes - by S. H. Ingberg - Safety Engineering, March 1926 - discusses main causes of fire under general headings carelessness, ignorance, crime and structural conditions.

The Fire Resistance of Clay Hollow Load Bearing Wall Tile* - by H. D. Foster - Proceedings 12th Annual Meeting Building Officials Conference, 1926, page 103 - gives results of fire tests and their application to building code requirements.

The Structural Factor in Fire Prevention* - by S. H. Ingberg - Proceedings 12th Annual Meeting of Building Officials Conference, 1926, page 126 - analyzes fire loss causes with particular reference to the structure as a preventive.

Discussion of Specification Requirements for Common Brick* - by C. O. Christiansen - American Architect, Vol. 130, No. 2500, July 5, 1926, page 23 - gives all available test data on clay brick and discusses their bearing on specification requirements.

A list of publications on accident prevention, safety and electrical hazards is given in Bureau of Standards Letter Circular No. 60.

A list of publications on the properties of building materials, building constructions and on building code requirements and zoning is given in Bureau of Standards Letter Circular 138.

